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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,241	09/07/2005	Minquan Cheng	2001B126B	9251

7590 05/29/2009  
ExxonMobil Chemical Company  
Law Technology  
PO Box 2149  
Baytown, TX 77522-2149

EXAMINER
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NGUYEN, TAM M

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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05/29/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/511,241	<b>Applicant(s)</b> CHENG ET AL.	
	<b>Examiner</b> TAM M. NGUYEN	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I, claims 1-31, in the reply filed on March 31, 2009 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Gorin et al (2,456,584).

Gorin discloses a process of separation of unreacted DME from a mixture containing water, propylene, propane, and DME which is the product of the conversion DME. The product is dehydrated before it is further separated for DME, propane, and propylene. After dehydration, Gorin does not disclose the presence of water in the dehydrated stream. The propylene stream of Gorin does not have DME. (See column 1, lines 1-5; col. 5, lines 39-45; col. 5, line 39 through col. 7, line 14; col. 6, line 74 through col. 7, line 1; the figure).

### ***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-10, 14, 15, 17, 19-21, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorin et al (2,456,584).

Gorin discloses a process as discussed above.

It appears that Gorin does not disclose a stream containing percentages of components as called for in claims 14, 20, and 21 (see the entire patent for details; namely col. 7, lines 13-14).

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However, this stream depends on the efficiency of the distillation step and the desired purity of the product

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gorin process by selecting an appropriate distillation system so that these streams contains percentages of components as the applicant's claimed process since it is expected that any percentage of these components in these streams would yield similar results.

The conversion of olefins such as propylene, butylene, and ethylene to other valuable products is well-known.

Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorin et al (2,456,584) in view of the admitted prior art.

Gorin does not disclose using adsorbent for water removal as called for in claims. However, the removal of water by using adsorbents is conventional methods (see pages 21-23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gorin process by operating the dehydration step by using any conventional method such as adsorption to arrive at the applicants' claimed process since it is expected using any method for separating water would yield similar results

Claims 12, 13, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorin et al (2,456,584) in view of Kuecher et al (6,121,504).

Gorin discloses a process as discussed above.

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Gorin does not disclose using a molecular sieve for conversion of DME to olefins and using water to separate DME from propane. However, Kuecher discloses these two features (the abstract; col. 3, lines 21-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gorin process by using a molecular sieve for the conversion step and using water to separate DME from propane to arrive at the applicants' claimed process since it is expected that using any catalyst for conversion and any method for separation would yield similar results.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAM M. NGUYEN whose telephone number is (571)272-1452. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

tn

/Tam M. Nguyen/

Primary Examiner, Art Unit 1797